Ball (John)

FORCIBLE AND RAPID DILATATION

OF THE

CERVIX UTERI,

FOR THE CURE OF

DYSMENORRHŒA.

WITH A NEW METHOD OF TREATMENT FOR THE PERMANENT RELIEF OF FLEXION.

BY

JOHN BALL, M. D.,

BROOKLYN, N. Y.

[*Extracts from a paper read before the Medical Society of Kings County, June* 16, 1873, *the practical part of which was published in the October number of the New York Medical Journal.*]

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1873.

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Dysmenorrhœa, from whatever cause it may arise, is allowed to be one of the most distressing maladies that afflict the female sex. Gynæcologists have long put forth their best efforts to discover means for its relief, which, to a certain extent, have been successful, and the improvement in this direction has, perhaps, been as great as in any other department of scientific research. Yet, the modes of treatment hitherto adopted by the profession have not been altogether satisfactory, and, in a great many cases, have proved quite inadequate. It is not necessary to my purpose, and I shall not attempt, on this occasion, to discuss the different causes that produce this disease, but shall confine my remarks to the treatment of those cases arising from constriction of the os and cervix uteri, with their frequent attendants of version and flexion; and, after referring very briefly to the different remedies which have been used by the profession, will speak of my own plan of treatment, and endeavor to draw an honest comparison as to the merits of each.

Dr. Mackintosh, of Edinburgh, was the first to call the attention of the profession to the mechanical cause of this disease, and the first to adopt mechanical means for its relief.

He commenced his treatment by the introduction of a small metal bougie, followed by others of larger size—advancing gradually and cautiously until his purpose was accomplished. According to his own account, he was quite successful. Many others have adopted this mode of treatment with comparatively good results. This operation, however, seems to be applicable only to cases of simple constriction of the os and cervix, and the cause of failure in many of these is owing to the fact that the parts will contract again soon after the instrument is removed. One objection to it is the length of time required to complete the cure; and (by-the-way) the same objections hold good in regard to the use of tents. Dr. Simpson, after giving bougies a fair trial, laid them aside and used a series of permanent stem-pessaries—leaving one in until he could introduce a larger one. But, with the use of these he found the same results as from the bougies. He, therefore, discarded them, and recommended incisions within the cervix uteri. This is done by the introduction of an instrument through the cervix uteri, armed with a concealed cutting-blade, and then set by a screw, to the distance required, when it is withdrawn, cutting its way out. The instrument is then turned, and a like incision is made on the opposite side. Dr. Greenhalgh has somewhat modified the operation by the use of an instrument with a double blade, cutting each way at the same time, which saves the necessity of repetition.

The success of this operation depends, I think, upon two causes: 1. The depletion, thereby relieving the congestion; and 2. Owing to the peculiar arrangement of the muscular structure of the cervix, the parts, after division, will divaricate, and by that means the canal is enlarged. But here, setting aside the danger of hæmorrhage, unless the operation is very skillfully performed, arises the question: "May not the walls of the cervix be weakened to such an extent, in some cases, as to interfere with gestation?" It seems to me that this condition must follow in cases, especially where the cervix is completely divided up to the os internum, as is sometimes done. This operation has been practised by many surgeons, both in Europe and in our own country, and has done much for the relief of dysmenorrhœa. Yet, if the same object can

be accomplished without any sacrifice to the parts, I think it becomes us to lay aside the knife, and choose the better way.

There is still another method of treatment adopted by some surgeons with very good results, which consists in the supplementing of Dr. Mackintosh's plan with the use of dilators of different kinds, where dilatation is carried to a much greater extent than could be done with simply the use of bougies.

In the July number, 1872, of "Braithwaite's Retrospect" —taken from the *British Medical Journal*, of December 16, 1871—there is an account given by Dr. J. Protheroe Smith, of London, of his plan of treating certain cases of dysmenorrhœa and sterility. He says that, after giving Dr. Simpson's plan a fair trial, he gave up the use of the hysterotome, and adopted this latter mode, using a dilator made after the model of Heurteloup's lithotrite, by which he conceived it practicable to dilate permanently the constricted os internum, and afterward, when necessary, to give the normal shape to the os tincæ by dividing it laterally at the commissures of the labia uteri. His cases, however, were confined to those of simple stricture of the os internum, and narrowing of the cervical canal and mouth, and he never, under any circumstances, applied extension until all the morbid conditions of the parts were entirely relieved. After accustoming the uterine canal to bear a metal bougie, which he introduced daily, and increased in size until a No. 10 could be borne without any pain, he then employs the dilator. This is used, at first cautiously, about every second day, always desisting as soon as pain is experienced. It will be found, he says, in a short time, that the uterus becomes accustomed to the dilatation, when it may be employed to a greater extent, and in a few days or weeks, as the case may be, a forced dilatation to the extent of an inch, or an inch and a half, may be used with impunity. After this it will only be necessary to use the dilator daily for two or three days, and afterward at longer intervals, to keep the parts open till they permanently heal in the state of distention effected by the operation.

All this I consider a step in the right direction, but has not been carried far enough to command a complete triumph.

The method adopted by myself, for several years past, is, I

confess, much more *heroic;* but I hope the cases which I shall present to you will serve to demonstrate its *safety* as well as its *utility.* The operation is not only applicable to all cases of constriction of the cervix uteri, but its *crowning glory* consists in the complete and radical cure of *flexion*, for which there had previously been no really satisfactory treatment.

Cases of flexion attendant upon anteversion can be relieved by division of the posterior labia uteri, as practised by Drs. Sims, Emmet, and others; I have had very good success with it myself. But cases of retroversion complicated with flexion have proved very troublesome. With the use of my diiator and uterine pessary, I find no difficulty in relieving them very promptly.

My method of procedure is first to evacuate the bowels pretty thoroughly beforehand, so as to prevent all effort in that direction for two or three days; I then place the patient upon her back, with her hips near the edge of the bed, and, when she is profoundly under the influence of an anæsthetic, I commence by introducing a three-bladed, self-retaining speculum, which brings in view the os uteri, which I seize with a double-hooked tenaculum and draw down toward the vulva, when I first introduce a metal bougie as large as the canal will admit, followed in rapid succession by others of larger size until I reach No. 7, which represents the size of my dilator. I then introduce the dilator and stretch the cervix in every direction, until it is enlarged sufficiently to admit a No. 16 bougie, which is all that is generally necessary. Then I introduce a hollow, gum-elastic uterine pessary, of about that size, and retain it in position by a stem, secured outside of the vulva, for about a week, in which time it has done its work, and is ready to be removed.

During this time I keep the patient perfectly quiet, and usually upon her back, which is generally found to be the most comfortable position.

The effects of this operation seem to be threefold: First, by breaking up all the adhesions, which are often very firm and unyielding, it relieves the constriction entirely, and, acting as a derivative, it cures the hyperæmia of the cervix; and, further, it establishes a radical change in the nutrition of the

whole organ. For instance, I have operated upon patients who had suffered for years from chronic endo-cervicitis, and when the most gentle touch of the finger would cause excessive pain, when in a few days the sensibility would all be gone, sometimes even before the pessary was removed.

In cases of flexion the relief is obtained by the straightening of the canal, which is produced by a change of the muscular tissues of the cervix from an abnormal to a normal condition. In the rapid dilatation of the parts, the constricting fibres are, of course, lacerated to some extent; and, in healing up around the pessary, must necessarily conform to their new relation. It was in seeking a remedy for this condition that my mind was first directed to this mode of operation; and, finding the relief so prompt and so effectual, and so safe also, I have been led to adopt the same treatment in all troublesome cases of constriction of the cervix uteri, whether complicated with version, or flexion, or otherwise; and the results have been so gratifying that I take great pleasure in laying them before my professional brethren.

It would be unreasonable to expect success in every case, and under all circumstances, yet I do claim for it a certainty hitherto unattained; and it has this one great advantage, viz., the saving of time, as in my hands it will accomplish more in a less number of weeks than it would take months to do by the ordinary methods. And, according to my own experience, it causes much less constitutional disturbance than the use of tents; and I think it safer even than the metrotome, and free from some serious objections to the use of the latter; as, for instance, when incisions are made through the tissues of the cervix, unless carried deep enough to prevent reunion, they must of necessity form a cicatrix, which will interfere, more or less, with the dilatation of the parts. And, when the operation does not succeed, the patient is left in a worse condition than before; while, in the rapid and forcible dilatation of the cervix, there is no sacrifice of the integrity of the parts, and, being done under the influence of an anæsthetic, there is no shock of the nervous system, and generally but little subsequent suffering.

While conscious of running counter to the preconceived

theories and practice of the profession, I feel quite confident that future experience will sustain me in the position I have taken.

My first case was one of anteversion, attended with a great amount of flexion.

Case I.—Miss P., aged nineteen. Commenced her menstrual functions at the age of fourteen, which soon became very painful, and at length her suffering became so intense that life was really a burden to her. She was unable to walk a single block without great pain; and, during her catamenial periods, she would become unconscious, and remain so for several days together, requiring a great deal of care from her friends. Between her periods she suffered almost constantly with pain in her back and head, so severe as to disqualify her for any thing useful.

When she first came under my observation, some months before the operation, I made a digital examination, which was attended with great pain, when I found the walls of the vagina considerably corrugated, and vaginismus so severe that it was almost impossible to reach the os uteri. After treating the vagina topically for a while, the sensibility of the passage was sufficiently relieved to enable me to examine the uterus, when I found the condition referred to above.

In seeking a remedy, my first intention was to divide the posterior lip, according to former custom, when the idea suggested itself to me that laceration might answer the purpose without sacrificing the os externum, as is the case when the knife is used.

Consequently, I provided myself with an instrument, made by Tiemann & Co., on the principle of Thebot's urethral dilator; and, on December 9, 1868, assisted by Drs. Enos and Landon, I operated by dilating the cervix uteri, backward and forward, to the extent of about seven-eighths of an inch. My hope was that, in lacerating the parts so freely, they would, in healing, assume their more natural relation, which, to a considerable degree, I found was the case.

After the operation I kept the patient quiet for about a fortnight, when I was greatly pleased to find that the lacerated parts had healed most kindly, and all tenderness of the

cervix and fundus had disappeared. From that time her general health improved very rapidly; her headaches were relieved, and she menstruated regularly without pain or inconvenience for nearly a year; when, as the curvature of the canal was not altogether relieved, her difficulties returned and increased upon her gradually, although not so severe as formerly, yet enough so to cause her considerable pain and inconvenience. I then resolved to repeat the operation, with the addition of the uterine pessary, that had suggested itself in the treatment of some other cases—which I did on May 25, 1870, assisted by Dr. Chapman.

In this operation I lacerated the cervix in every direction before introducing the pessary, let the pessary remain about a week, and when removed the whole organ was found in its normal position, and with a cervix straight enough for all practical purposes; for, after enjoying very good health for over nine months, she married on February 19, 1871, conceived the first month, had a pleasant gestation, and on the following December 7th she was delivered of a fine boy, which is still living.

Case II.—The next case was one of simple stricture, mostly of the os internum. Encouraged by the success of my first operation, I thought I would try its effects upon Miss N., aged about twenty-four years, who had suffered very much nearly all her menstrual life. Her distress at length became so great that she was willing to submit to any operation that would promise relief—even at the risk of her life.

Upon examination I found the os and cervix extremely sensitive to the touch, with considerable hyperæmia. On January 29, 1869, assisted by Dr. Conkling, I performed the same operation as the first one upon the previous case, except that I dilated the cervix in all directions. I would state here that the constriction at the os internum was so great that I found it very difficult to introduce a No. 1 metal bougie. The operation was so far successful that I relieved all the sensibility of the cervix and modified the patient's sufferings to a considerable extent; yet the passage remained too small, and her distress at her periods was still troublesome and inconvenient. Having now had some experience with the uterine

pessary, I repeated the operation on the 18th of December following, assisted by Drs. Snively and Housel. But, here I unfortunately had a partial failure, owing to a miscalculation of the length of the stem required to keep the pessary in its place. I applied the same one I had used in a previous case, and thought at the time it would answer very well; but I found upon examination, a day or two afterward, that the uterus had receded and nearly expelled the pessary. The result is, that I shall have to repeat the operation, and hope in the future to be more fortunate.

Case III. *Stricture of Cervix and Os Uteri.*—Mrs. N., aged thirty-three; married about eleven years. Health always delicate. Had suffered for many years with dysmenorrhœa and leucorrhœa; had also ulcerations of the os at different times. No conception; sexual intercourse painful; os uteri and cervix considerably tumefied and very sensitive. Operated upon her February 23, 1869, assisted by Dr. George K. Smith.

She had a pleasant recovery, and her health since then has been steadily improving, and she is now expecting her confinement within a month or two.

Case IV. *Retroversion with Flexion.*—Mrs. B., aged about twenty-eight years; married, and had one child eight years of age. She had suffered much from dysmenorrhœa and leucorrhœa from the date of her confinement, probably the result of displacement of the uterus, which, no doubt, was aggravated by the complete laceration of the perinæum during her confinement. Her health finally became so enfeebled that she was unable to leave her room for nine or ten months previous to the operation, and during her catamenial periods was obliged to keep her bed for several days together. There was a well-marked hyperæmic condition of the os and cervix, attended with great sensibility to the touch.

After trying topical applications and pessaries of different kinds with only partial success, I concluded to adopt the same treatment that had proved so satisfactory in my previous cases, and on September 2, 1869, I performed the operation, assisted by Drs. Conkling and Segur.

The patient was soon after able to leave her room, and

since that time has enjoyed most excellent health. She was left a widow soon after the operation; otherwise, judging from her present robust condition, I should expect some well-marked results. I would say, in concluding this case, that I repaired the damage to the perinæum a while after the other operation.

Case V. *Stricture of the Os and Cervix Uteri.*—Mrs. W., aged about thirty-two; married twice, and now living with her second husband. Had suffered many years from dysmenorrhœa and its attendants, which troubles were increasing upon her, and causing her much serious inconvenience: there was a considerable amount of tumefaction of the os uteri and cervix, with much tenderness. Operated upon her, October 7, 1869, assisted by Dr. E. N. Chapman. Operation successful, with health much improved since.

Case VI. *Stricture of Cervix Uteri, with Vaginismus.*—Miss M., aged about twenty-seven years. Had been troubled nearly all her menstrual life with dysmenorrhœa, etc. Health very delicate. I found it difficult to make a satisfactory examination until I had first subdued the vaginismus by topical applications, when the cervix uteri was found to be exceedingly sensitive to the touch, but not accompanied, as in some of the other cases, with much engorgement of the surrounding parts. The principal difficulty proved to be at the os internum, which was very much constricted. Operated upon her November 2, 1869, assisted by Dr. Conkling. Soon after the operation the soreness was all gone, and she has menstruated regularly and with perfect ease since that time. Her general health also improved rapidly. She is now married, and I hope for good results.

Case VII. *Stricture of the Os Internum.*—Mrs. M., from the northern part of this State, aged twenty-seven years; married several years; sterile. Had suffered many years with dysmenorrhœa, but between her periods had been comparatively comfortable. There was some tenderness around the cervix, but not enough to cause her much discomfort, except during her periodical sickness. Having a great fondness for children, she mourned over her sterility, and was willing to submit to almost any kind of treatment that would afford relief. About

a year previous to her presenting herself to me, she had been under the care of a celebrated surgeon for about six months, who had succeeded, by the use of the sponge-tents, in dilating the external os and cervix pretty well, and thought he had accomplished his purpose; but, the result proved the contrary, as she experienced no decided relief from the operations, and in a short time was as bad as ever. The failure, undoubtedly, was owing to his not getting through the os internum, which, as I have remarked before, it is an exceedingly difficult thing to do, where the constriction is very great, as I found was the case in this instance. It required a great deal of force to penetrate the os internum with the smallest bougie I have, which is about half the size of a No. 1. The stricture was very firm and unyielding, and required considerable force to break up the adhesions. I performed the operation upon her on the 10th of last March, assisted by Drs. Pilcher and Wm. Otterson. Not an unpleasant symptom followed the operation. She kept her bed for about a week, after which she went around as usual. About a fortnight after the operation her sickness came on, from which she suffered very little comparatively, and no more than would be expected under the circumstances. She returned home soon after this, and I regret that I have not heard from her lately, as I expected to, through her sister who is living here. The last accounts, however, were very gratifying.

Case VIII. *Anteversion with Flexion, complicated with Serious Disease of the Urinary Organs and Rectum.*—I mention this case, more particularly to demonstrate the safety of this operation under peculiar circumstances.

Miss R., aged twenty-one years. Had been troubled, more or less, with dysmenorrhœa for two or three years past, the result of displacement of the uterus, which, I think, was caused by an attack of metritis, brought on by her own imprudence.

Having some engagement during her catamenial period, she thought to get rid of it by holding her feet in cold water for a while. She succeeded, but paid dearly for the experience. Her menstrual troubles after that increased upon her, yet without any particular complications, until a little over a year

ago, when, as her parents were leaving home for a sojourn in the country, she rode over to the depot with them just at the time when the change was coming on. After returning to her home she was seized with a severe pain in the region of the uterus and bladder. Had retention of urine for three or four days, requiring the use of a catheter. This same difficulty returned at each succeeding catamenial period, lasting about the same length of time. I was about proposing an operation for her relief, when, on one of the coldest days of the first of last January, she, in company with some young friends, was out a long while upon the ice, at the skating-pond, listening to the music. The result was a severe inflammation of the uterus, urinary organs, and rectum, causing permanent retention of urine, requiring the use of a catheter for about five months. Her menstrual troubles increased during this time to such an extent that delirium would supervene upon each return, and last for several days, the last time continuing for about a fortnight. Her periodical returns varied from four to seven weeks, averaging about six weeks. Being convinced that the primal difficulty was in the uterus, I concluded to direct my first remedy to that organ. Owing, however, to her low condition, and to the extreme sensibility of the urethra, bladder, and rectum, which still remained, I thought it a matter of *prudence* not to use the pessary at first, lest the stem might possibly irritate those parts and cause cellulitis. I preferred to repeat the operation, if necessary, rather than to take any unnecessary risks. So I merely dilated the cervix uteri, as I had done in my first cases. If I had had the weight of the profession on my side to support me, perhaps I should not have used so much caution. My object was to reduce the congestion and change the nutrition of the parts, which was accomplished to my complete satisfaction. Assisted by Prof. Armor, I performed the operation on the 12th of May, by dilating the cervix in every direction very freely.

Within a few days after the operation all the unpleasant symptoms, from which she had suffered so long, began to subside. In less than a month after, the bladder performed its functions, and has continued to do so since. The disease in the urinary organs is entirely relieved, and only a slight sensi-

bility of the uterus remains. Her general health is improving very rapidly, and she menstruates with very little pain or inconvenience. The flexion is not entirely relieved, and, should her difficulty return, I shall propose a repetition of the operation, with the use of the pessary.

Case IX. *Antebilateral Version, with Great Curvature and Stricture of the Cervix Uteri.*—I was called, on the 5th of May last, to visit Miss L., aged nearly seventeen years, who was suffering from severe urinary symptoms. Suspecting uterine complications, upon inquiry, I learned that she had been troubled with dysmenorrhœa, more or less, since she was twelve years of age, when her change took place, and had suffered almost constantly with severe pain in the back and head, which had distressed her very much. Although of a full habit, and apparently vigorous, the least exertion would exhaust her and intensify her sufferings. As she was anxious for relief, I made a digital examination, and found the uterus in the condition referred to above—the fundus toward the left pelvis, and the os uteri toward the right. The cervix was flexed in the form of a rainbow, and apparently of about twice the usual length. It had a hard, cartilaginous feel, and seemed to be but a little larger than a common clay-pipe stem. The whole organ was exceedingly sensitive to the touch. After the pressing symptoms were relieved, I operated upon her on the 17th of May, assisted by Dr. Andrew Otterson. The constriction proved to be greater than in any case I had ever met with, and required great force in introducing my smallest metal bougie. I finally succeeded, however, and then followed it, in rapid succession, by others of larger size until I could use the dilator. The force used in the dilatation was so great that a crackling could be distinctly heard for some distance around; and, strange to say, after all this laceration, not one unpleasant symptom followed it. Of course, there was considerable soreness for a day or two, but after that she was very comfortable. In a week after the operation I removed the pessary, when I found the uterus in its normal position, with the cervix shortened to about the usual length, and apparently as straight as in ordinary cases. The next day her periodical change came on without the least unpleasant pre-

monitory symptom, and she has continued to menstruate with freedom and regularity since. Her headaches have entirely left her, and she is now enjoying perfect health.

These are some of the cases that have come under my personal supervision, and to me have proved abundantly satisfactory. I only hope that my experience may not provoke any rashness in others that might serve to bring reproach upon the operation.

Were I asked under what pathological conditions I would recommend this operation, my reply would be, in all cases where any other surgical or mechanical means would be considered advisable, which, of course, must be left to the judgment of the surgeon in charge. I should not interfere, however, in any case where there was acute inflammation of any part of the organ.

NOTE.—Since writing this paper, our attention has been called, by the editor of the NEW YORK MEDICAL JOURNAL, to an article published in the *Archiv für Gynækologie* (Bd. V., Heft 2), by Dr. Ellinger, of Stuttgart, containing a variety of experience somewhat similar to my own—with the exception of the use of the pessary. He employs for his purpose a sort of modified polypus forceps. Dr. Ellinger recommends extemporized dilatation: 1. In stricture of cervical canal. 2. Stenosis due to flexions. 3. Metrorrhagia in a flabby, swollen uterus, but without new growths. 4. Retained catarrhal secretions. 5. For exploration of uterine cavity. 6. Replacement of a flexed uterus. 7. Sterility. Finally, Dr. Ellinger declares that he has never had reason to regret the rapid dilatation, and urges it in all cases where dilatation is justifiable, to the exclusion of all other methods.

Fig. 1.

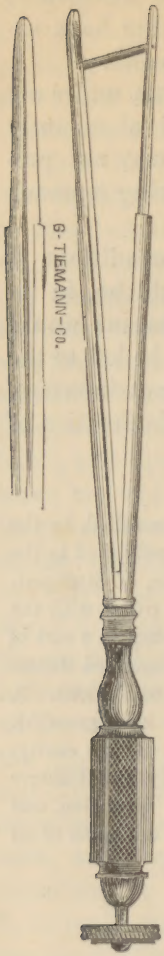

Fig. 1.—This cut represents the original instrument, the operation of which is very satisfactory; yet, I think that, for the greater extensions, it could be improved by an arrangement whereby the blades would open parallel to each other. I, therefore, propose to have two instruments—the original one to commence the operation, and the other to complete it. The reason for having two is the difficulty of combining sufficient strength, upon the principle of the latter one, with the small size required for the first introduction. It is, however, merely a matter of convenience, as, in most cases, one instrument would be all that is required.

Fig. 2.

Fig. 2.—I have recently adopted a modification of the pessary, by uniting the stem permanently with it, and having it made solid, instead of hollow, as, in the short time required for its use, it answers the purpose just as well and is more simple in its construction. My plan of retaining the pessary in place is, simply by attaching two pieces of narrow tape to strips of heavy adhesive plaster secured on either side of the back, crossed through the ring of the stem, and tied through loops in corresponding strips of plaster in front.

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